WHITE RIVER TRAIL SDD

Completed on September 28, 2009

Standards and Guidelines Assessment

The Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area were developed by the Mojave-Southern Great Basin Resource Advisory Council (RAC) and approved in 1997. Standards and guidelines are likened to objectives for healthy watersheds, healthy native plant communities, and healthy rangelands. Standards are expressions of physical and biological conditions required for sustaining rangelands for multiple uses. Guidelines point to management actions related to livestock grazing for achieving the standards.

This Standards Determination Document evaluates and assesses livestock grazing management achievement of the Standards and conformance with the Guidelines for the White River Trail (#11005) in the Ely BLM District. This document does not evaluate or assess achievement of the wild horse and burro or the off highway vehicle Standards or conformance to their respective Guidelines.

The Standards were assessed for the White River Trail by a BLM interdisciplinary team consisting of rangeland management specialists, natural resource specialist, wildlife biologist, weeds specialist, ecologist, and a hydrologist. Documents and publications used in the assessment process include the Soil Survey of Nye County, Nevada, Northeast Part; Ecological Site Descriptions for Major Land Resource Area 28; Interpreting Indicators of Rangeland Health (USDI-BLM et al. 2000); Sampling Vegetation Attributes (USDI-BLM et al. 1996); and the National Range and Pasture Handbook (USDA-NRCS 1997). A complete list of references is included at the end of this document. All are available for public review in the Ely BLM District Office. The interdisciplinary team used rangeland monitoring data, professional observations, and photographs to assess achievement of the Standards and conformance with the Guidelines.

The White River Trail encompasses approximately 19,300 public land acres (Appendix II, Figure I. General Map) and covers approximately 40 miles. This is an adjudicated trail for sheep trailing in the spring and fall. The trail located approximately 19 miles southwest of Lund, Nevada in the northeastern portion of Nye County. The trail intersects four allotments: Sheep Trail Seeding Allotment, Hardy Spring Allotment, Forest Moon Allotment, and Dry Farm Allotment. The northern half of this trail occurs within the White River Central Watershed and the southern half occurs in the Garden Valley Watershed. The trail intersects two Herd Areas (HA), White River HA and the Seaman Range (HA). However, both of these HAs was closed in 2008 by the Ely District Record of Decision/Resource Management Plan. All of the trail is located in the Quinn Sage Grouse Population Unit. The trail is within the Nevada Department of Wildlife hunting management area #13. No springs or riparian areas occur within the White River Trail boundaries, water sources are limited to wells and reservoirs. None of the White River Trail is within wilderness; the nearest wilderness is the Grant Range Wilderness on National Forest Lands and approximately three miles west of the trail. The Sherwood Wild Fire, in 2006, is the only recent fire that has burned within the trail boundary.

Three permittees have adjudicated Animal Unit Months (AUMs) specific to this trail for spring and fall sheep trailing. The three permittees are John Uhalde & Co. (#2704736), Double U Livestock LLC (#2700046), and Blue Diamond Oil Corporation (#2704653). All three permittees hold permits in the northern portion of the Ely BLM District and the southern portion of the Ely BLM District that they alternate sheep grazing on. The White River Trail is a continuation of the two sheep trails further north, the Jakes Unit Trail and the Preston Lund Trail.

This Standards Determination Document evaluates and assesses livestock grazing management achievement of the Standards and conformance with the Guidelines for all three permittees. Based on this document, and other associated Standards Determination Documents completed for the other allotments these permittees use, new term grazing permits could be issued this year to John Uhalde & Co. (#2704736) and Double U Livestock LLC (#2700046) for a period up to ten years for their respective southern permits on the Ely BLM District. Blue Diamond Oil Corporation's permit is not being renewed this year, however future term permit renewals for the White River Trail could be considered based on this determination along with future monitoring data.

PART 1. STANDARD CONFORMANCE REVIEW

White River Trail Standards Review

Standard 1. Soils

"Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle."

Soil Indicators:

- Ground Cover (vegetation, litter, rock, bare ground).
- Surfaces (e.g., biological crust, pavement).
- Compaction/infiltration.

Riparian Soil Indicators:

- Stream bank stability.

Determination:

X Achieving the Standard

□ Not Achieving the Standard, but making significant progress towards

□ Not Achieving the Standard, and not making significant progress toward standard

Causal Factors

□ Livestock are a significant contributing factor to not achieving the standard.

□ Livestock are not a significant contributing factor to not achieving the standard

□ Failure to meet the standard is related to other issues or conditions

Guidelines Conformance:

X In conformance with the Guidelines

□ Not in conformance with the Guidelines

Conclusion: Achieving the Standard..

UPLANDS: Rangeland monitoring and professional observation indicates that overall soil condition is currently being maintained. Soils are stable and the topsoil is holding in place.

Study site WRT-SS-01 occurs in the Kunzler, dry-Sycomat association within the 3211 SMU of the Soil Survey of Nye County, Nevada, Northeast Part. It is a loam to sandy loam with 0-4% slopes. This SMU occurs along the northern third of the trail with various sagebrush shrub communities. The ecological site for this key area is 028BY010NV. The soil surface is moderately coarse to medium textured and may be modified with a high volume of gravels, cobbles or stones. The topography is stream terraces. Soils are deep and well drained. The potential for sheet and rill erosion is moderate to high depending on slope.. The ESD suggests that approximate ground cover (basal and crown) at WRT-SS-01 should be between 10-20%. Actual cover was 31%. Wyoming sagebrush made up 22% of the cover, while Douglas rabbitbrush made up 9%. The vegetation was vigorous and appeared to assist in stabilizing soil at the site. No rilling or gullies were observed. No use was recorded at this site. Sheep had trailed through the area a week before utilization was monitored. Confirmation of sheep trailing though the area included some trampling and sheep manure present. This site meets the soil indicators for Standard 1 because it is above the recommended amount of live vegetative cover.

Study site WRT-SS-02 occurs in the Linoyer-Kunzler association within the 3974 SMU of the Soil Survey of Nye County, Nevada, Northeast Part. It is a fine sandy loam to loam with 0-4% slopes. This SMU occurs along the middle part of the trail with either winterfat vegetative communities or sagebrush shrub communities. The ecological site for this key area is 028BY010NV. The soil surface is fine sandy to moderately coarse and medium textured and may be modified with a high volume of gravels, cobbles or stones. The topography is stream terraces. Soils are deep and well drained. The potential for sheet and rill erosion is moderate to high depending on slope.. The ESD suggests that approximate ground cover (basal and crown) at WRT-SS-02 should be between 10-20%. Actual cover was 23%. Wyoming sagebrush made up 20% of the cover, while Douglas rabbitbrush made up 3%. The vegetation was vigorous and appeared to assist in stabilizing soil at the site. No rilling or gullies were observed. Slight use was recorded at this site. Sheep had trailed through the area two weeks before utilization was monitored. Confirmation of sheep trailing though the area included some trampling and sheep manure present. This site meets the soil indicators for Standard 1 because it is within the recommended amount of live vegetative cover.

A variety of soil mapping units are scattered throughout the trail including 3970, 3412, 3212, and 3310. Soil composition ranges in these units from sandy loam to gravelly loamy sand to very gravelly loam with slopes varying from 0-4% on the stream terraces and increasing to 2-8% on the alluvial fans. Runoff varies with slope and permeability of

the soils. These soils appear to be stable with no recent rills or gullies observed. No study sites or key areas are established in these areas. Line intercept cover studies conducted at the two study sites on the trail demonstrate that cover is meeting the ecological site description (ESD) for both sites. Based on professional observations there is no pedestaling, rills or gullying occurring along the trail.

RIPARIAN: There are no riparian areas within the White River Trail; therefore it will not be analyzed within this document.

Standard 2. Ecosystem Components
Watersheds should possess the necessary ecological components to achieve State water quality criteria, maintain ecological processes, and sustain appropriate uses.

Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Upland Indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to potential of the ecological site.
- Ecological processes are adequate for the vegetative communities.

Riparian Indicators:

- Stream side riparian areas are functioning properly when adequate vegetation, large woody debris, or rock is present to dissipate stream energy associated with high water flows.
- Elements indicating proper functioning condition such as avoiding acceleration erosion, capturing sediment, and providing for groundwater recharge and release are determined by the following measurements as appropriate to the site characteristics:
    - Width/Depth ratio.
    - Channel roughness.
    - Sinuosity of stream channel.
    - Bank stability.
    - Vegetative cover (amount, spacing, life form).
    - Other covers (large woody debris, rock).
    - Natural springs, seeps and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.

Water Quality Indicators:

- Chemical, physical and biological constituents do not exceed the State water quality Standards.

The above indicators shall be applied to the potential of the ecological site.

Determination:
□ Achieving the Standard
□ Not Achieving the Standard, but making significant progress towards
X Not Achieving the Standard, and not making significant progress toward standard

Causal Factors
□ Livestock are a significant contributing factor to not achieving the standard.
X Livestock are not a significant contributing factor to not achieving the standard
X Failure to meet the standard is related to other issues or conditions

Guidelines Conformance:
X In conformance with the Guidelines
□ Not in conformance with the Guidelines

Conclusion: Not achieving the Standard, and not making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

UPLANDS: The ecological processes are not being met on the upland vegetative communities. The White River Trail runs north to south along the terrace that parallels the valley bottom and goes mainly through salt desert shrub and sagebrush shrub communities. The trail is located in the poor quality portions of these communities with very little grass and mostly shrubs. Ecological processes are defined by the Standards and Guidelines for Nevada's Mojave-Southern Great Basin Area as **"**Natural functions including the hydrologic cycle, the nutrient cycle, and energy flow (see also 43 CFR 4180.1(b))."

Salt Desert Shrub
Salt desert shrub plant communities are located at the lower elevations throughout the trail. Often these areas are dominated by salt tolerant species with sites ranging in location from the dry lake beds to mid-slope. Vegetation is characterized by four-wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), ephedra (*Ephedra nevadensis*), winterfat (*Krasheninnikovia lanata*), Indian ricegrass (*Achnatherum hymenoides),* and small galleta (*Pleuraphis jamesii*). No study sites are located in these plant communities.

Sagebrush Shrub
Sagebrush shrub communities are found at higher elevations on the terraces of where this trail follows. These communities are characterized by Wyoming sagebrush (*Artemisia tridentata var. wyomingensis*), spiny hopsage (*Grayia spinosa)* and/or black sagebrush (*Artemisia nova)* which may be accompanied by an assortment of perennial native bunch grasses such as Indian ricegrass, squirreltail (*Elymus elymoides*), *Poa* spp., needleandthread (*Hesperostipa comata*), small galleta (*Hilaria jamesii*) etc. Two study

sites are located in sagebrush shrub communities and based on cover studies, both study sites had 100% shrub composition.

In the sagebrush shrub communities along the trail the lack of perennial grasses is impacting nutrient cycling within these plant communities by not providing the appropriate inputs of organic matter to the surface soil layer. The lack of native perennial grasses affects the input of organic matter for soil biota. Although the shrubs are contributing to the soil biota and nutrient cycling is occurring in the soil, a more diverse composition of vegetation that includes perennial grasses would increase nutrient cycling and influence soil development. However, all other natural functions including the hydrologic cycle and energy flow are stable with the deep rooted shrubs, maintaining these ecological processes.

Key forage plant utilization method (KFPM) was used to collect utilization data at the two study sites in 2008. This data showed only slight utilization at one site. The trail is only grazed by sheep for a few weeks in the spring and fall, with most use occurring in the fall. Invasive nonnative plants are currently not an issue within these communities, but the lack of grasses indicates that the ecological processes are not adequate for these vegetative communities. One of the components missing at these sagebrush sites is the fire disturbance cycle which may be preventing these communities from maintaining a diverse grass understory.

RIPARIAN: The Standard is not assessed for the White River Trail.

Standard 3. Habitat and Biota:
Habitats exhibit a healthy, productive, and diverse population of native and/or desirable plant species, appropriate to the site characteristics, to provide suitable feed, water, cover and living space for animal species and maintain ecological processes. Habitat conditions meet the life cycle requirements of threatened and endangered species.

As indicated by:

- Vegetation composition (relative abundance of species);
- Vegetation structure (life forms, cover, height, or age class);
- Vegetation distribution (patchiness, corridors);
- Vegetation productivity; and
- Vegetation nutritional value.

Determination:
□ Achieving the Standard
□ Not Achieving the Standard, but making significant progress towards
X Not Achieving the Standard, not making significant progress toward standard

Causal Factors
□ Livestock are a significant contributing factor to not achieving the standard.
X Livestock are not a significant contributing factor to not achieving the standard
X Failure to meet the standard is related to other issues or conditions.

Guidelines Conformance:
X In conformance with the Guidelines
□ Not in conformance with the Guidelines

Conclusion: Not achieving the Standard, and not making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

Rangeland monitoring (including professional observations, line intercept studies, and key forage plant utilization) show habitat conditions throughout a large portion of the trail are not exhibiting a healthy and productive plant community with suitable habitat for wildlife. The same problems identified in Standard 2 also indicate that plant composition is not appropriate to the ecological sites. The two study sites in the sagebrush communities provide adequate cover, but there is a lack of perennial grasses to provide suitable feed for wildlife. No threatened and endangered species have been identified in this allotment so no specific habitat conditions are needed to meet a specified life cycle requirement.

There is one sensitive plant species, White River catseye (*Cryptantha welshii*), and two sensitive animal species, pygmy rabbit (*Brachylagus idahoensis*) and greater sage-grouse (*Centrocercus urophasianus*), that occur within the trail boundaries. Direct observations for two of these species are delineated on a map (see Appendix II, Figure 2). The proper ecological elements of cover and forage needed by many wildlife species, particularly the high profile BLM Sensitive Species of greater sage-grouse and pygmy rabbit are not currently supported along the trail.

White River catseye is a species of concern for U.S. Fish and Wildlife Service and a Special Status Species for BLM. Located in "dry, open, sparsely vegetated outcrops", White River catseye "appears to tolerate or even increase with transient disturbances within its habitat, such as animal trampling and roadside maintenance (Nevada Natural Heritage Program)". Based on White River catseye's habitat requirements it is meeting its life cycle requirements and livestock may be having a positive impact on its environment.

Pygmy rabbit is listed as a species of special concern in Nevada and a Special Status Species for BLM. Pygmy rabbits are typically found in areas of tall, dense sagebrush (*Artemisia spp.)* cover, and are highly dependent on sagebrush to provide both food and shelter throughout the year. Their diet in the winter consists of up to 99 percent sagebrush. Pygmy rabbit burrows are typically found in relatively deep, loose soils of wind-borne or water-born origin. They occasionally make use of burrows abandoned by other species and as a result, may occur in areas of shallower or more compact soils that support sufficient shrub cover. Based on pygmy rabbits' habitat requirements it is meeting its life cycle requirements and livestock grazing on the White River Trail doesn't appear to be having a negative impact.

The greater sage-grouse (*Centrocercus urophasianus*) is a high-profile Sensitive Species currently undergoing review for Threatened or Endangered Status (USDI 2008). It has been identified as an "umbrella" species by the Ely District BLM, and chosen to represent the habitat needs of the sagebrush (*Artemisia* spp.) obligate or sagebrush/woodland dependent guild (BLM 2007; p. 4.7-10). One lek is within three miles of the trail. This lek has not been monitored and no survey data is available. Portions of the trail occur in nesting, brooding and winter sage grouse habitat.

Issues identified in Standard 2 for not meeting the Standard may also be contributing to not meeting Standard 3. Utilization studies conducted on the trail showed livestock grazing to be within proper use levels and the trail is rested from sheep during most of the critical spring growth period. Most trail use occurs in the late fall for approximately a month. Livestock are removed during part of the critical spring growing period allowing key forage vegetation to complete the phenological cycle each year and maintain existing forage and cover for wildlife.

PART 2. ARE LIVESTOCK A SIGNIFICANT CONTRIBUTING FACTOR TO NOT MEETING THE STANDARDS? SUMMARY REVIEW:

White River Trail Standards Summary Review

Standard #1: Soils
Achieving the Standard.

Standard #2: Ecosystem Components
Not achieving the Standard, and not making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

Standard #3: Habitat and Biota
Not achieving the Standard, and not making significant progress towards. Livestock are not a significant contributing factor to not achieving the Standard, failure to meet the standard is related to other issues or conditions.

PART 3. GUIDELINE CONFORMANCE REVIEW AND SUMMARY

White River Trail Guideline Conformance Review and Summary
Grazing is in conformance with all applicable Guidelines as provided in the Mojave-Southern Great Basin Standards and Guidelines. Based on a review of the monitoring data presented in this determination, current livestock grazing management practices in the White River Trail are in conformance with the Guidelines for Livestock Grazing Management. Permittees are proactively adjusting grazing based on available forage.

PART 4. MANAGEMENT PRACTICES TO CONFORM WITH GUIDELINES AND ACHIEVE STANDARDS

Discussion:
Current management practices including moderate or less utilization, and limited grazing during the spring and fall are helping this allotment to achieve Standard 1. It was determined that Standard 2 and 3 are not being achieved and are not making progress toward achieving these standards. The reason for a determination of not making progress is due to the lack of previous data to compare progress to for the White River Trail.

John Uhalde & Co. uses this grazing permit as part of their southern operation for (winter) grazing from late fall to early spring for both sheep and cattle. The permittee trails sheep south in the fall and moves sheep into Batterman Wash Allotment. The permittee uses all of the allotments for sheep grazing and rotates use through herding. The permittee can trail north in the spring using the same trail, but sometimes transports the sheep herd to their northern allotments by truck. The permittee transports their cattle herd south by truck and rotates use on Batterman Wash Allotment and Worthington Mountain Allotment using water to control and rotate use. In the spring cattle are transported back to the northern allotments by truck.

The term "southern permit" is used only as a reference to help clarify which term permit is being renewed with regard to this permittee. Since this permittee also holds a separate grazing permit for allotments in the northern portion of the Ely BLM District, the southern permit is only grazed from late fall to mid spring. The term "southern permit(s)" will not be included on the actual permit, since the permit numbers identify this differentiation.

Recommendations for White River Trail:

Recommendations include the continuation of all desirable livestock management practices currently being implemented for this trail. Establish utilization levels for this trail for key forage species. Continue rangeland monitoring of this trail for livestock compliance with proper allowable use levels.

Recommendations that should be considered for inclusion in all three permittees' terms and conditions:

1. Establish maximum allowable use levels as follows:

- **Perennial grasses: not to exceed 50% of current year's growth.**
  This use level is necessary to allow desirable key herbaceous species to 1) develop above ground biomass for protection of soils, 2) contribute to litter cover, 3) develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase overall cover.

- **Perennial shrubs and half-shrubs: 45% use on current year's growth.**
  This use level is necessary to allow desirable perennial key browse species to develop woody stature able to withstand the pressure of grazing use. Use will be read in March or prior to the spring regrowth.

2. Continue terms and conditions identified for this allotment in the 1996 Final Multiple Use Decision (FMUD) for the Seaman Herd Management Area and the 1996 FMUD for Sunny Side and Hardy Springs Allotments.

3. Salt and/or mineral supplements for livestock should be located no closer than ½ mile from water sources. Use of nutritional supplements (not forage) is encouraged to improve the ability of cattle to utilize forage in the winter months and to improve livestock distribution into areas previously slightly or occasionally grazed by livestock.

4. Wildlife escape ramps would be inspected and maintained by the permittee at each trough used on the allotment (permanent or temporary).

REFERENCES

Drews, Michael and Eric Ingbar. Technical Report: Cultural Resources Analysis and Probability Model for the Bureau of Land Management, Ely District. Carson City: Gnomon, Inc., 2004.

Nevada Natural Heritage Database

USDA - NRCS 1997. National Range and Pasture Handbook.

USDA – NRCS. 1998. Nevada Plant List.

USDA – NRCS. 2001. Soil Quality Information Sheet. Rangeland Soil Quality – Physical and Biological Soil Crusts.

USDA – NRCS. 2003. Major Land Resource Area 28, Range Ecological Site Descriptions.

USDA- NRCS. 2007. Soil Survey of Nye County, Nevada, Northeast Part.

USDA - USFS, NRCS, USDI - BLM, Cooperative Extension Service. 1996. Sampling Vegetative Attributes.

USDI – BLM. 2000. Interpreting Indicators of Rangeland Health. Version 3. Technical Reference 1734-6. BLM/WO/ST-00/001-734. National Science and Technology Center Information and Communications Group, Denver, Colorado.

USDI – BLM. 2008. Integrated Vegetation Management Handbook H-1740-2

Prepared by:

/s/Mindy Seal	9/30/09
Mindy Seal, Natural Resource Specialist	Date

Reviewed by:

/s/Mindy Seal (for)	9/30/2009
Bonnie Million Noxious and invasive non-native species	Date
/s/Chris Mayer (for)	9/30/09
Ruth Thompson Wild horses and burros	Date
/s/ Mark D'Aversa	9/30/09
Mark D'Aversa Soil/Air/Water	Date
/s/ Gina Jones	9/30/09
Gina Jones Ecology	Date

/s/ Alicia Styles	9/29/09
Alicia Styles Wildlife/migratory birds/special status animals/plants	Date

I concur:

/s/Chris Mayer — 9/30/09

Chris Mayer — Date
Supervisory Rangeland Management Specialist
Egan Field Office

/s/ Jeffrey A. Weeks — 9/30/09

Jeffrey A. Weeks — Date
Field Manager
Egan Field Office

SECTION 1 – DATA ANALYSIS

1. Review of Final Multiple Use Decisions

Four Final Multiple Use Decisions (FMUD) were reviewed during the analysis of the White River Trail, along with current data:

- The 1996 FMUD for Forest Moon Allotment and the 1997 FMUD that included Sheep Trail Seeding Allotment did not incorporate information or management actions regarding White River Trail.
- 1996 FMUD for Sunnyside and Hardy Springs Allotments included changes in the location of the White River Trail where permittee Blue Diamond Oil Corporation trails through the Sunnyside Allotment to access the Fox Mountain Allotment.
- 1996 FMUD for those "Allotments Located within the Seaman Herd Management Evaluation Area" (Seaman FMUD) included the permitted use on the White River Trail for Double U Livestock LLC and John Uhalde & Co.

2. Study Sites, Location, Vegetative Cover and Composition

Study sites may include critical areas and key areas. For the purpose of this data the study sites selected along the White River Trail were selected for the same purpose as a key area would be selected. A key area is a relatively small portion of a pasture or allotment selected because of its location, use, or grazing value as a monitoring point for grazing use. It is assumed that study sites, if properly selected, reflect the current grazing management over the pasture or allotment as a whole or a study site may be selected to identify a particular concern (NRCS 1997). Study sites may be key areas that represent range conditions, trends, seasonal degrees of use, and resource production and values.

Ecological Sites are interpretive units into which landscapes of native vegetation are separated for study, evaluation, and management. An ecological site, as defined for rangeland, is a distinctive kind of land with specific physical characteristics that differs from other kinds of land in its ability to produce a distinctive kind and amount of vegetation (NRCS 1997). The ecological site of a key area is determined based on several factors including soil mapping unit, topography, and plant community.

The Line Intercept Cover Study is a commonly used method of estimating the relative percent live foliar cover of a range site by plant class (tree, shrub, grass, forb, or annual). The method also estimates the percent live foliar cover by plant species. The results are then compared to the appropriate cover for each range site as indicated by the Natural Resources Conservation Service (NRCS) ecological site descriptions. Results are also compared to what is known about healthy rangelands in general.

Table 2-1. Study Sites Summary Table

Date	Key Area	Ecological Site	Cover in 2008 (%)	*Potential Cover (%)
11/21/2008	WRT-SS-01	**028BY010NV**	33%	10% to 20%
11/26/2008	WRT-SS-02	**028BY010NV**	23%	10% to 20%

*Based on ecological site descriptions.

Listed in Table 2-2 is a summarized description of the ecological site within the White River Trail where the two study sites were established and monitored using the line intercept cover study method. Included in this list is the associated soil description, precipitation zone, and the plant community composition and cover. Data collected for each study site regarding vegetative cover and vegetative composition is summarized within this table.

Recent data collected at the study sites demonstrates that cover is being met at both sites. Please note that no invasive annuals were recorded at either site. Both sites were composed of shrubs only. This may be due to the timing of when the data was collected. Both of these sites demonstrate a change in plant dynamics were the plant community has deteriorate to shrub only and limited the quality of habitat and forage. The lack of grasses at both these sites may one of the reasons the trail follows this route, rather than the trail going through more productive areas. Over time this deterioration could allow nonnatives to invade and if a disturbance occurred, such as fire, the historical plant community would not be resilient in its recovery.

Table 2-1. Study Site WRT-SS-01 Vegetative Cover Data

Summarized Ecological Site Description for 028BY010NV: Loamy 8-10" P.Z. (precipitation zone) Soils are moderately deep to deep and well drained. Surface soils are moderately coarse to medium textured and may be modified with a high volume of gravels, cobbles or stones. The potential for sheet and rill erosion is moderate to high depending on slope. ***Approximate ground cover (basal and crown) is about 10–20 percent.*** Plant community dominated by Wyoming big sagebrush. ***Potential vegetative composition is about 50% grasses, 5% forbs, and 45% shrubs.***				
Key Areas	**Location**	**Date Monitored**	**Total Percent Cover Basal/Crown**	**Percent Composition Based on Cover By Groups**
WTR-SS-01	See Appendix II, Figure II	11/21/2008	31%	Grasses 0% Forbs 0% Shrubs 100%

Plant Species Common Name (Plant Symbol)	**Percent Cover Basal/Crown**	**Percent Composition Based on Cover**
Wyoming sagebrush (ARTRW)	22%	71%
Douglas rabbit brush (CHVI)	9%	29%
The line intercept method includes litter cover. Litter cover is 5%*.		
No other plants were present in the area.		

Key Areas	Location	Date Monitored	Total Percent Cover Basal/Crown	Percent Composition Based on Cover By Groups
WRT-SS-02	See Appendix II, Figure II	11/26/2008	23%	Grasses 0% Forbs 0% Shrubs 100%

Plant Species Common Name (Plant Symbol)	Percent Cover Basal/Crown	Percent Composition Based on Cover
Wyoming sagebrush (ARTRW)	20%	86%
Douglas rabbit brush (CHVI)	3%	14%
The line intercept method includes litter cover. Litter cover is 5%*.		
No other plants present in the area.		
*provided for information purposes, not factored into total percent cover basal/crown		

3. Analysis of Riparian Areas

No lotic (stream) or lentic (spring) riparian areas are located within the White River Trail, so no assessments were done. See Appendix II, Figure IV for kind and location of water sources within this trail.

4. Licensed Livestock Use

Livestock licensed actual use on the White River Trail has varied dependent on growing conditions, available forage, and management objectives of the permittees and the BLM. Table 4-1 includes licensed actual use and percentage of licensed actual use compared to total active AUMs permitted from 1999 to 2007. The total number of active AUMs for the White River Trail is 1,505. Chart 4.1 combines all three permittees licensed actual use compared to total active AUMs. Also, since this is a trail with seasonal use, the spring and fall use has been compared in Chart 4-2. Over the past several years the majority of AUMs for this trail were used in the fall to trail ewes south after the lambs were weaned. Some of the permittees have opted to truck the ewes in the spring rather than trail since the ewes are close to lambing at this time.

Table 4-1. White River Trail Licensed Actual Use For Sheep

Permittee	Grazing Year	Licensed Actual Use (AUMs)	% Licensed Actual Use of Total Permitted Use*
PARIS, BERTRAND AND SONS (this permit is provided for information purposes only, since it transferred to Double U Livestock L.L.C. in 2002)	1999	109	45%
	2000	197	81%
DOUBLE U LIVESTOCK L.L.C.	2003	123	51%
	2004	74	31%
	2005	144	60%
	2006	252	104%
	2007	112	46%

JOHN UHALDE & CO	2000	64	11%
	2001	224	37%
	2004	83	14%
	2005	59	10%
	2006	79	13%
	2007	105	18%
BLUE DIAMOND OIL CORPORATION	2001	36	5%
	2002	89	13%
	2003	61	9%
	2004	29	4%
	2005	103	16%
	2006	126	19%
	2007	53	8%

* This is based on percent of AUMs licensed for sheep use compared to the total active AUMs available to each permittee for sheep grazing for this trail.

Chart 4-1. White River Trail Permittees Combined Licensed Actual Use

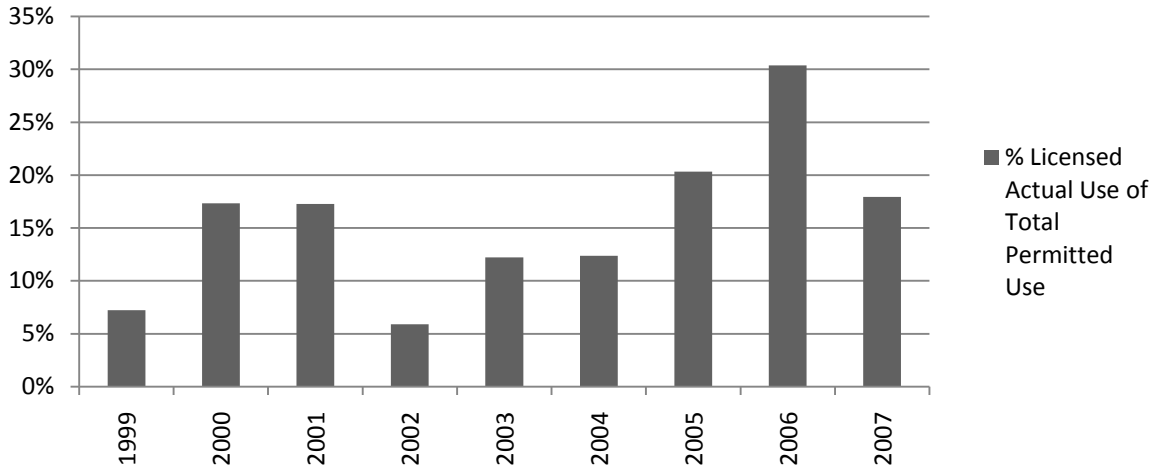
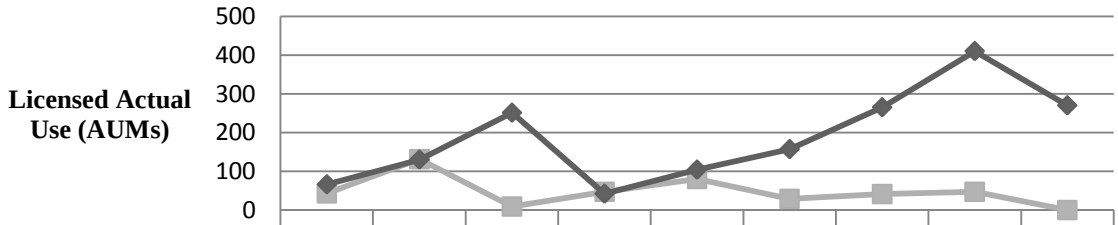


Chart 4-2. Comparison of Total AUMs Used Annually by Season



Grazing Yr.	1999	2000	2001	2002	2003	2004	2005	2006
Spring (AUMs)	43	131	9	47	80	29	41	47	0
Fall (AUMs)	66	130	251	42	104	157	265	410	270

5. Utilization

The following is a summary of the utilization data collected on the White River Trail. The Final Multiple Use Decisions for this trail did not set maximum utilization on key forage species, however 50% utilization on perennial native grasses allows desirable key herbaceous species to develop above ground biomass for protection of soils, to contribute to litter cover, and to develop roots to improve carbohydrate storage for vigor, reproduction, and improve/increase desirable perennial cover.

Utilization is the estimation of the proportion of annual production consumed or destroyed by animals (Swanson 2006). Utilization for these allotments is determined by measuring the key forage consumed of current year's growth, and does not differentiate use by livestock and wildlife. The general utilization objective for all allotments in the Ely BLM District according to the Ely District Record of Decision and Approved Resource Management Plan (ROD/RMP – August, 2008) is to "Manage livestock grazing on public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function and health" (Ely RMP, p. 85). The Nevada Rangeland Monitoring Handbook gives guidelines to determine the proper use levels by plant category (grasses, forbs, and shrubs) and by grazing season (spring, summer, fall, winter, yearlong). Proper use levels for all allotments are also implied by the Standards and Guidelines for Rangeland Health and Grazing Administration (February 1997).

Key forage plant utilization method (KFPM) was used to collect utilization data at the key areas. In 2008, utilization was collected at both study sites after the sheep had trailed through in the fall and ranged from no use to slight.

Grazing Year	Key Area	Key Species	Percent Utilization	Utilization Range
2008	WRT-SS-01	Wyoming sagebrush	0%	no use
2008	WRT-SS-02	Wyoming sagebrush	3%	slight

6. Precipitation data

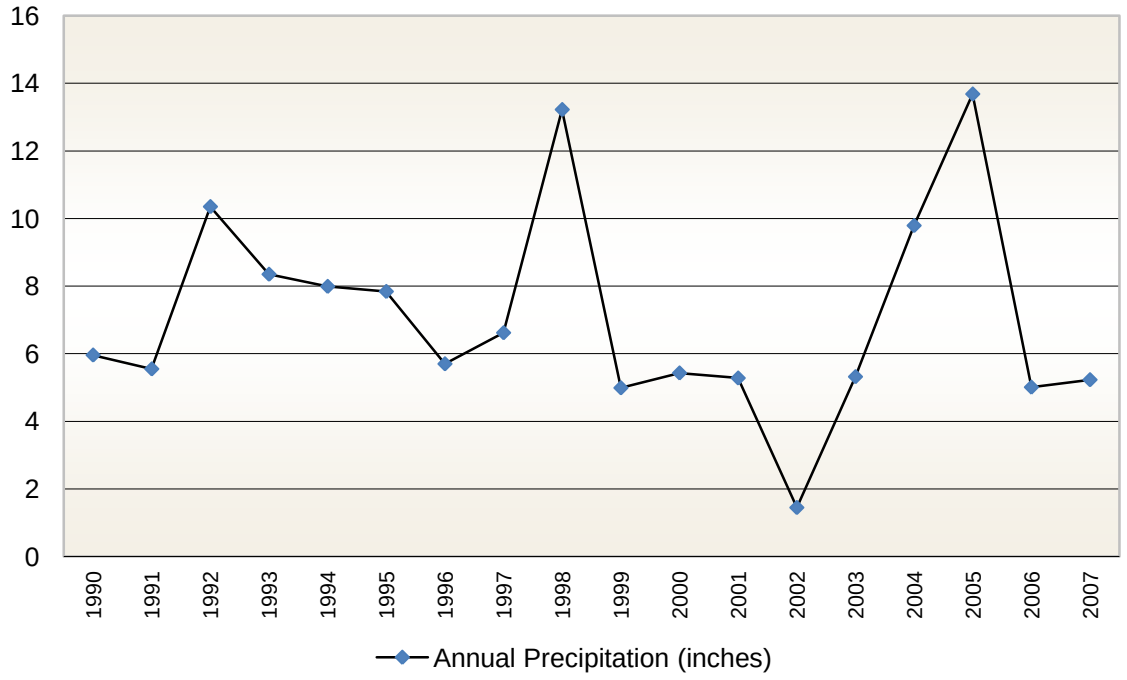
Annual precipitation greatly influences growing condition of forage species and is often correlated to available forage. Historical climate data from the Western Regional Climate Center for Hiko, Nevada is being used for this assessment. The table below includes annual precipitation data collected since 1990. Chart 7-1 demonstrates the trend of annual precipitation since 1990.

Table 6-1. Annual Precipitation for Hiko, Nevada

Year	Annual Precipitation (inches)	Year	Annual Precipitation (inches)
1990	5.96	2000	5.43
1991	5.55	2001	5.28
1992	10.35	2002	1.45
1993	8.35	2003	5.32

1994	7.99	2004	9.79
1995	7.84	2005	13.68
1996	5.7	2006	5.01
1997	6.62	2007	5.23
1998	13.22		
1999	4.99		

Chart 6-1. Annual Precipitation Graphed From 1990 to 2007



SECTION 2 – MAPS

Figure I.

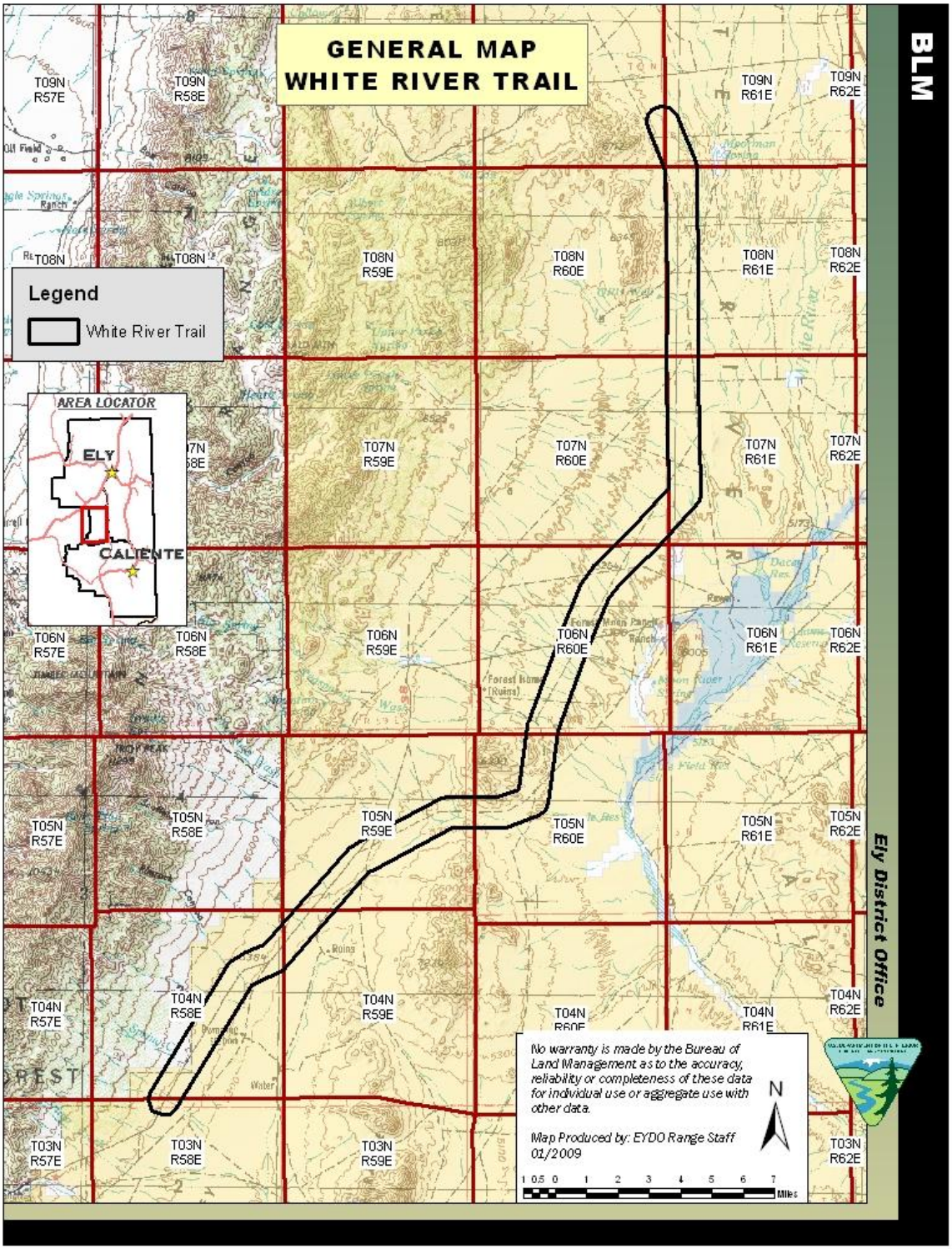


Figure II.

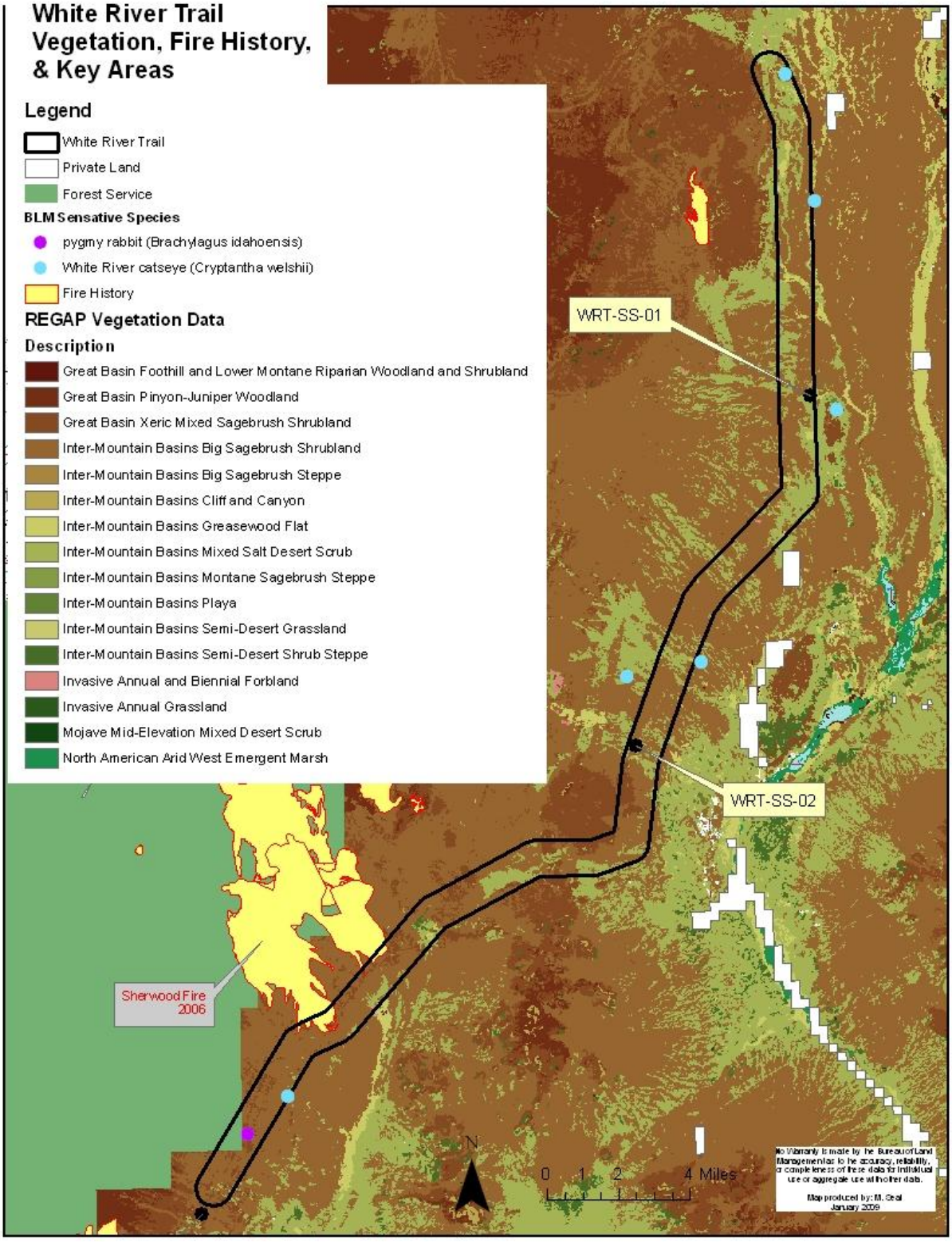

White River Trail
Vegetation, Fire History,
& Key Areas
Legend
White River Trail
Private Land
Forest Service
BLM Sensative Species
pygmy rabbit (Brachylagus idahoensis)
White River catseye (Cryptantha welshii)
Fire History
REGAP Vegetation Data
Description
Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland
Great Basin Pinyon-Juniper Woodland
Great Basin Xeric Mixed Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Steppe
Inter-Mountain Basins Cliff and Canyon
Inter-Mountain Basins Greasewood Flat
Inter-Mountain Basins Mixed Salt Desert Scrub
Inter-Mountain Basins Montane Sagebrush Steppe
Inter-Mountain Basins Playa
Inter-Mountain Basins Semi-Desert Grassland
Inter-Mountain Basins Semi-Desert Shrub Steppe
Invasive Annual and Biennial Forbland
Invasive Annual Grassland
Mojave Mid-Elevation Mixed Desert Scrub
North American Arid West Emergent Marsh
WRT-SS-01
WRT-SS-02
Sherwood Fire
2006
N
0 1 2 4 Miles
No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.
Map produced by: M. Seal
January 2009

Figure III.

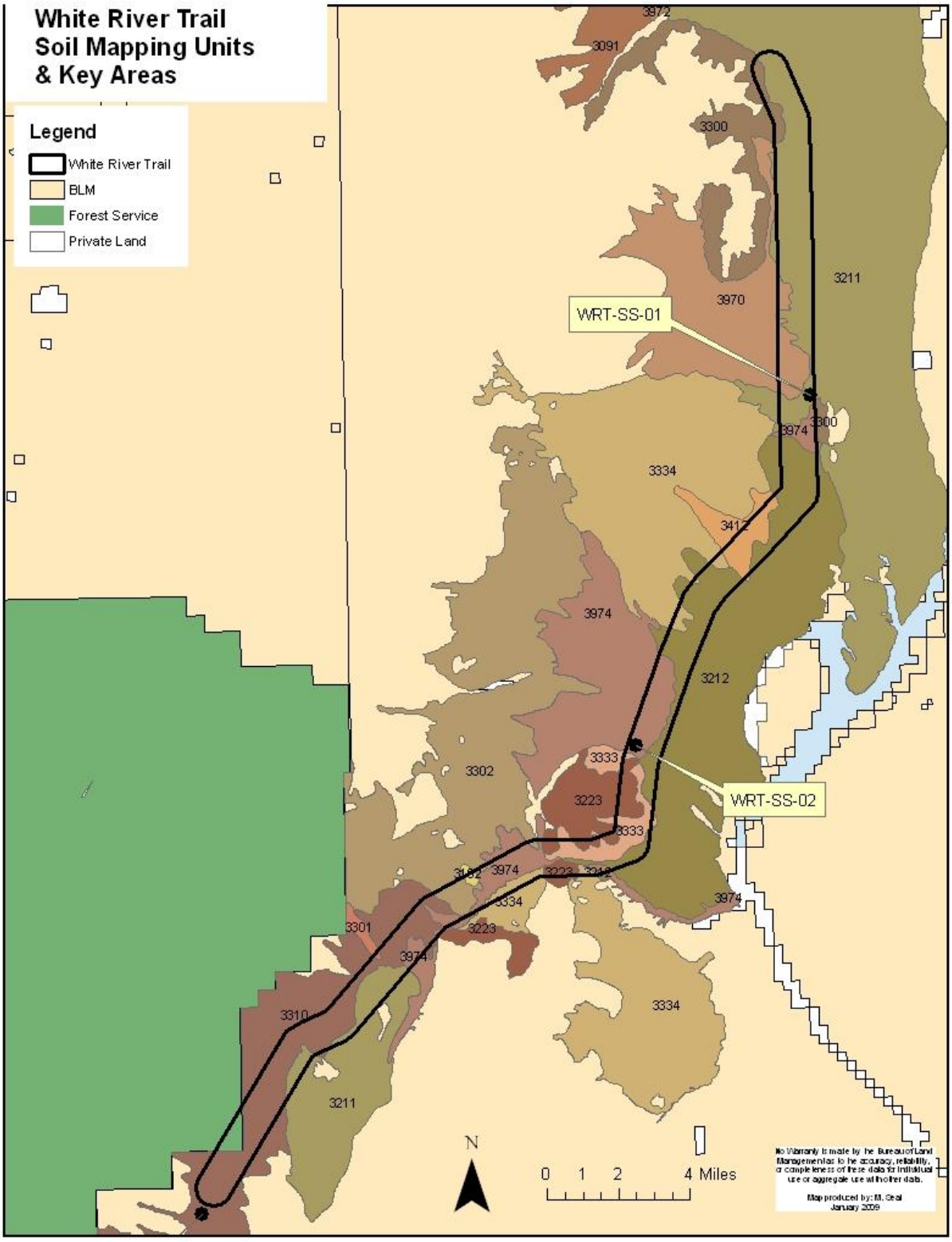

White River Trail
Soil Mapping Units
& Key Areas
Legend
White River Trail
BLM
Forest Service
Private Land
WRT-SS-01
WRT-SS-02
3972
3091
3300
3211
3970
3974
3334
3412
3212
3333
3302
3223
3301
3310
N
0 1 2 4 Miles
No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.
Map produced by: M. Seal
January 2009

Figure IV.

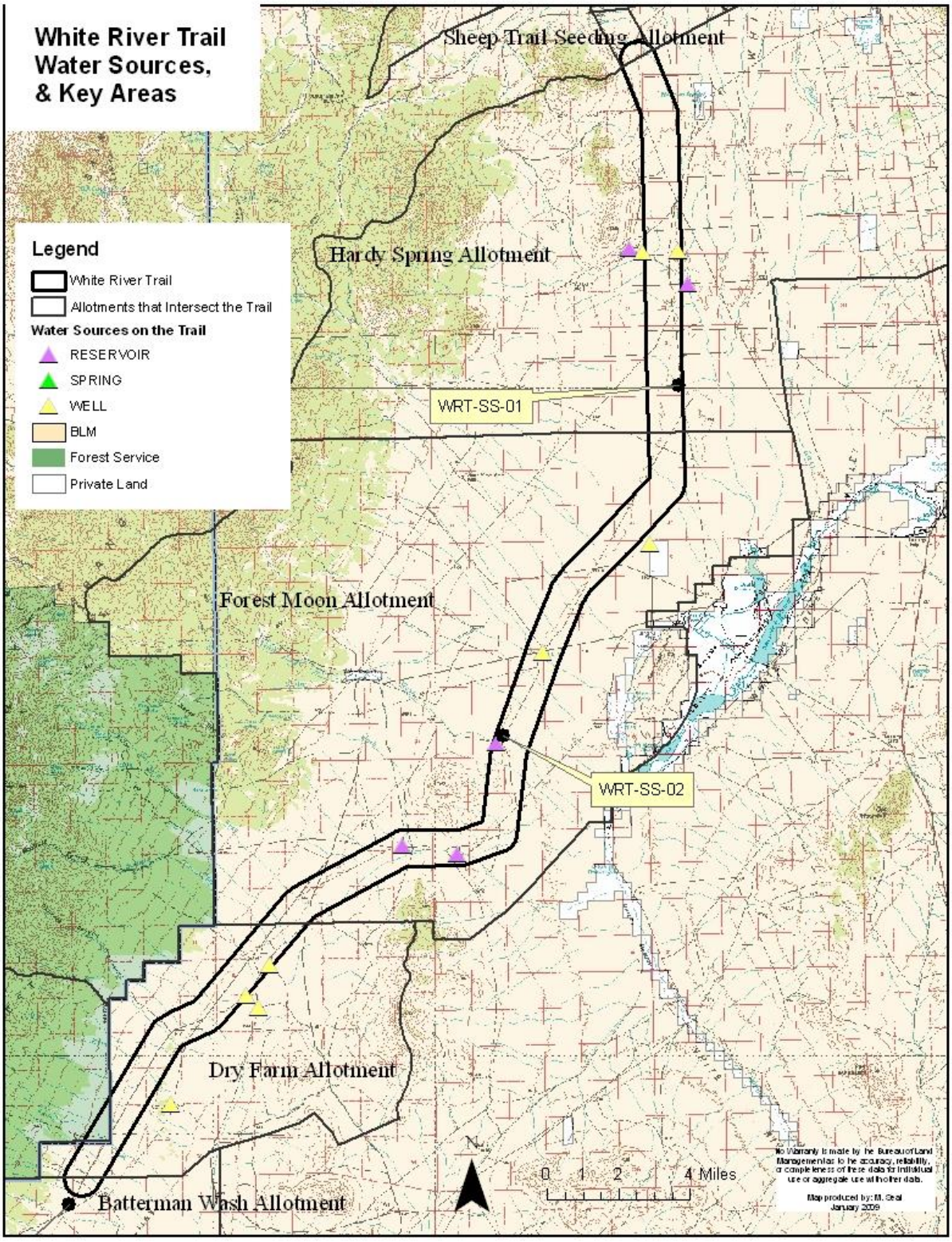
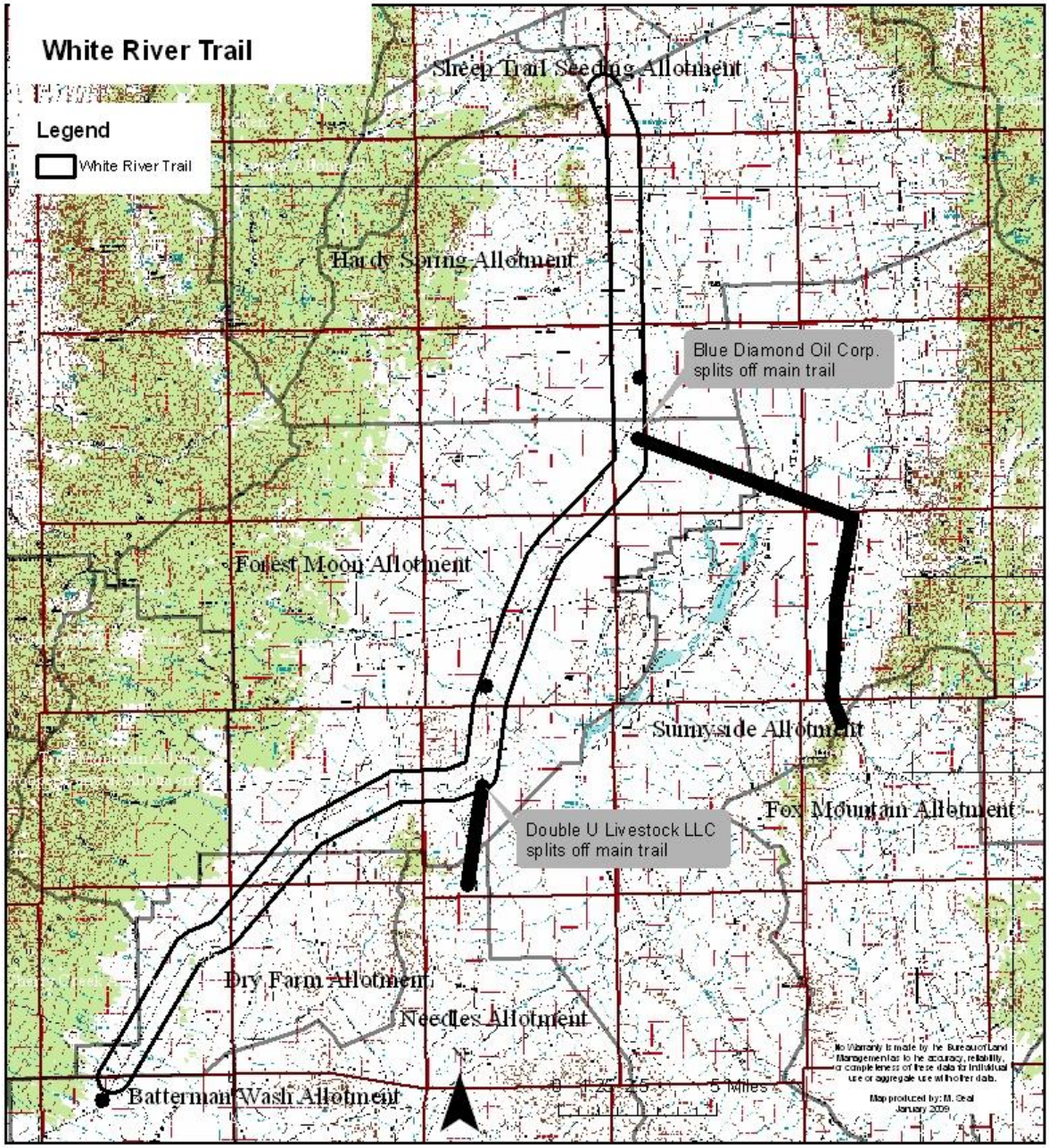

White River Trail
Water Sources,
& Key Areas
Legend
White River Trail
Allotments that Intersect the Trail
Water Sources on the Trail
RESERVOIR
SPRING
WELL
BLM
Forest Service
Private Land
Sheep Trail Seeding Allotment
Hardy Spring Allotment
WRT-SS-01
Forest Moon Allotment
WRT-SS-02
Dry Farm Allotment
Batterman Wash Allotment
N
0 1 2 4 Miles
Map produced by: M. Seal
January 2009

Figure V.



This map depicts approximately where permittees split from the main segment of the White River Trail. Please note that all three permittees have adjudicated AUMs for the White River Trail until they reach their own allotments.

- Blue Diamond Oil Corp. splits off at approximately T7N, R61E and trails across Sunnyside Allotment to Fox Mountain Allotment (part of their permit).

- Double U Livestock splits off at T5N, R60E to go to the Needles Allotment; or trails into the Dry Farm Allotment (part of their permit).

- John Uhalde & Co. goes to the end of the trail and enters the Batterman Wash Allotment (part of their permit).